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#13/ Appeal Brief  
8/14/03

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

APPLICANT: Reinhold Schopf  
SERIAL NO. 09/928,070  
FILED: August 10, 2001  
FOR: STYLES AND METHOD OF FORMING SAME  
EXAMINER: Yaritza Guadalupe Group: 2839

**Mail Stop Appeal Brief - Patents**  
Commissioner for Patents  
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**BRIEF ON APPEAL**

Sir:

This is a brief in support of an appeal from the Final rejection of claims 8-10 and 13-15 by the Examiner.

The Commissioner is hereby authorized to charge the fee required under 37

C.F.R. § 1.17(c) in the amount of \$320.00 and any additional fee which may be

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required or credit an overpayment to our Deposit Account No. 50-0955. A duplicate of this sheet is enclosed.

I. **REAL PARTY IN INTEREST**

The real party in interest is the assignee Dr. Johannes Heidenhain GmbH.

II. **RELATED APPEALS AND INTERFERENCES**

None.

III. **STATUS OF CLAIMS**

The present application was filed with seven (7) claims, namely, claims 1-7. During the prosecution, claims 1-7 were canceled, and claims 8-18 were added. Claims 8-10 and 13-15 now present in the application for appeal purposes. Claims 11-12 and 16-17 were withdrawn from consideration.

IV. **STATUS OF AMENDMENTS**

The Final Office Action was issued on May 15, 2003. The Examiner rejected claims 8-10 under 35 U.S.C. § 102(b) as being anticipated by Kendall, U.S. Patent No. 4,826,372 (Kendall). Claims 13-15 were rejected under 35 U.S.C.

§103(a) as being unpatentable over Possati et al., U.S. Patent No. 5,299,360 (Possati) in view of Kendall.

No amendment was filed in response to the Final Office Action.

## V. SUMMARY OF THE INVENTION

The present invention relates to a stylus (2) used with a coordinate measuring machine (1) (Fig.1; page 9, lines 1-2). The stylus has a stem (4) having break-off region (6) consisting of a changed structure of the stem material (Fig. 1, page 9, lines 2-6). The diameter of the stem (2) in the break-off region (6) remains substantially unchanged (page 10, lines 7-9). The break-off region (6) is formed along the circumference of the stem (2) (page 10, lines 2-5; page 11, ultimate line page 12, line 1). The stylus is made of a hard metal (page 9, lines 5-6).

The present invention also relates to a coordinate-measuring machine that includes a stylus according to the present invention.

## VI. ISSUES

As noted above, the Examiner rejected claims 8-10 under 35 U.S.C. § 102(b) as being anticipated by Kendall, U.S. Patent No. 4,826,372 (Kendall). Claims 13-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Possati et al., U.S. Patent No. 5,299,360 (Possati) in view of Kendall. The issues under consideration are whether claims 8-10 are indeed anticipated by Kendall, and whether claims 13-15 are unpatentable over Possati in view of Kendall.

## VII. GROUPING OF CLAIMS

Claims 8 and 13 are independent claims and are respectfully submitted to be patentable for specific novel features recited therein.

Claims 9 and 14 depend on claims 8 and 13, respectively, and are respectfully submitted to be patentable for the same reasons claims 8 and 13 are patentable and further because of specific features recited therein which, when taken alone and/or in combination with those of claims 8 and 13, are not disclosed or suggested in the prior art.

Claims 10 and 15 stand or fall together with claims 8 and 13, respectively.

## VIII. ARGUMENTS

In the stylus according to the present invention, as defined by claim 8, the break-off region consists of a changed structure of the stem material, with the diameter of the stem in the break-off region remaining substantially unchanged. The Examiner asserts (Office Action, page 3, first paragraph) that Kendall discloses that:

- (i) break-off region/breakneck region (24) consists of changed (?) structure of a stem material; and
- (ii) with reference to the drawings, the diameter of the stem at the break-off point is considered substantially unchanged. . .

Appellant respectfully disagrees with both of these assertions. Firstly, the Examiner considers the notch of the break-off point (24) to be a “changed” structure. It seems that the Examiner confuses the “structure” with “shape.” Generally, under “structure of a material” a material structure is understood. There is no disclosure whatsoever in Kendall that the crystallographic structure of the breakneck region (24) has been changed. Accordingly, it is respectfully submitted that Kendall does not disclose, teach or otherwise suggests changing the structure of a stem (pin) material to provide a weakness (break-off) region.

Secondly, Kendall refers not to a break-off region but to a “breakneck.” “Neck” according to a dictionary definition (Webster’s II, New College Dictionary, Houghton Mifflin Company, 2001) means “narrow portion of a structure. . .” (page 731, left column). Accordingly, the breakneck region (24) in Kendall cannot have the same or substantially the same diameter at the pin (14). Moreover, Kendall refers to a break groove or breakneck (column 5, line 24). An inner surface of a groove cannot have the same or substantially the same diameter as the pin in which the groove is formed. Kendall claims (claim 28) that the breakneck diameter is approximately 85% of the shank section diameter. Clearly, 85% is not “substantially unchanged” (the same).

This case law requires to define “substantially” in view of the general guidelines contained in the specification. In re Mattison, 184 U.S.P.Q. 484 (CCPA 1975).

According to the present invention, the change in structure is effected without removal of material or only with minimal removal of material, with a structural change reaching up to a depth of about .2 mm into the depth of material. (page 10, lines 6-9).

The specification further discloses that the changes of the structure of material is effected by heating. Thus, the change of diameter, if any, would only be the result of heating, which does not change the dimension in any noticeable manner. with a penetration depth of .2 mm, the change of the diameter, if any, would be at most a tenth of that amount, *i.e.*, about .02 mm with the stem diameter of 2 mm (page 10, line 10), that change would amount to 1%, which is a far cry from 15%, as in Kendall. Accordingly, the guidelines contained in the specification point out that “substantially” means to a very small degree and, definitely, to much less than 15% of Kendall.

A rejection based on U.S.C. § 102 as in the present case, requires that the cited reference disclose each and every element covered by the Claim. Electro Medical Systems S.A. v. Cooper Life Sciences, 32 U.S.P.Q. 2d 1017, 1019 (Fed. Cir. 1994); Lewmar Marine Inc. v. Barient Inc., 3 U.S.P.Q. 2d 1766, 1767-68 (Fed. Cir. 1987); Verdegaal Bros., Inc. v. Union Oil Co., 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987).

Since Kendall fails to disclose each and every feature of independent Claim 8, Kendall, as a matter of law, does not anticipate the present invention, as defined by said independent claim.

In view of the above, it is respectfully submitted that Kendall does not anticipate or make obvious the present invention as defined in Claim 8, and the present invention is patentable over Kendall.

Kendall likewise does not disclose forming the break-off region along a circumference of the stem. The stem circumference is defined by the stem diameter. In Kendall, with the breakneck diameter being smaller than the pin diameter, the break-off region is not arranged along the circumference of the pin (stem) region.

In view of the above, it is respectfully submitted that claim 9 is likewise patentable over Kendall.

Claim 13 was rejected over Possati in view of Kendall. The Examiner asserts that Possati discloses a break-off region (14) consisting of a changed structure of a stem material. Having carefully reviewed Possati, no disclosure is found in Possati that would support the Examiner's assertion. It is respectfully submitted that neither Possati nor Kendall (please see discussion re Kendall above) discloses or suggests a break-off region consisting of a changed structure of a stem material, with the stem diameter in the break-off region remaining substantially unchanged, as recited in claim 13.

In view of the above, it is respectfully submitted that claim 13 is patentable over the combination of Possati and Kendall.

Claim 14 is similar to claim 9 and is allowable for the same reasons claim 9 is allowable.

### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the rejection of claims 8-10 under 35 U.S.C. § 102(b) as being anticipated by Kendall, and the



rejection of claims 13-15 under 35 U.S.C. §103 (a) as being unpatentable over Possati in view of Kendall, are improper, and it is respectfully requested that these rejections be reversed.

Respectfully Submitted,

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Dated: August 1, 2003  
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail and addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 1, 2003.

Alexander Zinchuk

## APPENDIX "A"

### **Claims on Appeal:**

8. A stylus, comprising a stem; and a break-off region provided in the stem and consisting of a changed structure of a stem material, wherein a diameter of the stem in the break-off region remains substantially unchanged.

9. A stylus as set forth in claim 8, wherein the break-off region is formed along a circumference of the stem.

10. A stylus as set forth in claim 8, wherein the stem is formed of a hard metal.

11. A coordinate-measuring machine, comprising a touch probe; and a stylus connectable to the touch probe and including a stem, and a break-off region provided in the stem and consisting of a changed structure of a stem material wherein a diameter of the stem in the break-off region remains substantially unchanged.

12. A machine as set forth in claim 13, wherein the break-off region is formed along a circumference of the stem.

13. A machine set forth in claim 13, wherein the stem is formed of a hard metal.

## **APPENDIX "B"**

### **The Prior Art relied on:**

1. Electro Medical Systems S.A. v. Cooper Life Sciences, 32 U.S.P. Q 2d 1017, 1019 (Fed. Cir. 1994).
2. Lewmar Marine Inc. v. Barzient Inc., 3 U.S.P.Q 2d 1766-68 (Fed. Cir. 1987).
3. Verdegaal Bros., Inc. v. Unis Oil Co., 2 U.S. P. Q 2d 1051, 1053 (Fed. Cir. 1987).
4. In re Mattison, 184 U.S.P.Q. 484 (CCPA 1975).